A multimedia method and system for interaction between a screen-based host and various distributed and free-styled information containing items, and an information containing item for use with such system.

BACKGROUND OF THE INVENTION

The invention relates to a multimedia method for use with a screen-based host system provided with information processing and I/O facilities, and interacting with one or more distributed items that are arranged for storing information and exchanging

5   information with the host system. Various computer systems have been proposed to interact with external memory carriers for exchanging data therewith, such as programs. On the other hand, multimedia systems that to a certain extent are designed to operate under non-data-processing conditions and with various different types of operator persons, that in particular may not be computer literate, should have a user interface that is very different in style and

10   functionality. The inventors have recognized that functionality and styling of such data carriers should attract such other social environment.

SUMMARY TO THE INVENTION

In consequence, amongst other things, it is an object of the present

15   invention to provide the system versus such data items with an immediate reactivity and physical recognizability as to their content. Now therefore, according to one of its aspects, the invention is characterized in that said multimedia method comprises the steps of allowing the distributed items to exchange analog or digital information under proximity conditions with respect to the host, but without requiring formatted berth facilities of the host,

20   with respect to various such items evoking through self-identifying thereof associated specific iconizing by the host for signalling to a user an associated and selective information processing and/or entertainment oriented service field, furthermore so allowing by the host a user person to activate information processing operations with respect to the selective service field,

25   having each item so keeping abreast of host-generated results during such proximity conditions as being relevant to its associated field, whilst allowing free styling of such item with respect to physical shape requirements thereto.

The evoking of a specific icon on the host screen is token for an allowable interactivity, and

the storing of appropriate processing results in the item allows a user to discontinue a
session, whilst still being able to later resume at an interaction point that is deemed relevant.
The free-styling of the items makes recognizing easier for little children and other categories
of people.

5   By itself, PCT published Patent application WO 96 03188 A1 discloses a
system wherein particular toy figures in proximity conditions with the system may identify
themselves versus the system for so activating an associated audio visual display sequence on
the system display. However, the toys will only identify themselves towards the system,
whereas the present invention additionally allows to store various data processing quantities
10   in the information item, as well as to lend to the items a characteristic shape.

         The invention also relates to a system arranged for implementing the
method, and to an item for use with the method. Further advantageous aspects of the
invention are recited in dependent Claims.

15   BRIEF DESCRIPTION OF THE DRAWING
         These and further aspects and advantages of the invention will be
discussed more in detail with reference to the disclosure of preferred embodiments
hereinafter, and in particular with reference to the appended Figures that show:
         Figure 1, a block diagram of a system of the invention;
20   Figure 2, a block diagram of an item of the invention;
         Figure 3, a flow chart of the interaction.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS
         Figure 1 is a block diagram of an exemplary system according to the
25   invention. The screen-based host has central processing facility 20, memory facility 22,
printer facility 24, display screen facility 26, and I/O facility 28. A system with fewer than
all of the above facilities could be feasible as well. All of these facilities are interconnected
as shown by arrows. Two of the distributed and free-styled information items 30, 32 have
been shown, one of them having a geometrical shape, and the other being shaped as a
30   recognizable toy figurine. The screen is preferably a touch or stylus actuated screen. The I/O
facilities may comprise keyboard, joystick, mouse, speech-based interaction and further
facilities which have not been shown specifically; none of these are really indispensable,
provided that at least one mechanism for receiving user interaction is available. In particular
however, arrows 34 symbolize wireless intercommunication between I/O subsystem 28 and

the distributed items 30, 32. As shown on the display screen 26, interaction between item 30 and I/O makes an icon 36 appear that may correspond to the physical shape of the item in question, or otherwise symbolize the associated service field.

Figure 2 is a block diagram of an information item 40 according to the

5   invention. As shown, the item itself has not been detailed as to the styling thereof. Various parts of the item are communication part 40 for interfacing to wireless connection 34, processing part 44, permanent memory part 48 and variable memory part 46. All of these facilities are internally interconnected as shown by arrows. Furthermore, battery powering is on board but has not been shown for brevity; solar cell powering is feasible as well. Useable

10   examples for the styling are: semi-personal toy figures like Barbie-dolls or (semi)-animals, geometrical shapes like diabolo's or toroids, fantasy shapes or minimal art with contorted or abstracted forms, or rather common household articles such as a decorative vase, a presse-papier, or other. The electronic part thereof would be barely more than a single solid state chip with a few elements for the communication, such as a loop antenna or the like. The

15   two-dimensional icon representation on the screen of the generally three-dimensional item may symbolize the **shape** of the item. Alternatively, the icon may represent the associated service field. Further, after entering the screen, the icon may be a so-called dynamic icon that suggests some level of life or action therein. Such dynamism may include geometrical transform in 2-D or 3-D, animation, colour change, and others. Also, the entire screen may

20   be filled with graphics that represent the item and/or the service filed, such as used in screen savers.

Figure 3 is an exemplary flow chart of the interaction between the host system and a single distributed item. In block 60, the host system is activated, such as by a power switch. In block 62, the host detects whether a distributed item is within an

25   appropriate proximity; this may be a distance of about one meter, or a presence in the same room. If no, block 76 implements a waiting loop. If yes, in block 64, the identity of the item is recognized. This may be effected through an elementary dialogue between host and item, or even with the item as an object that is electronically passive, e.g. in that it may detune an RF field or through other means. The identity may be a discrete quantity, such as a

30   frequency value in a particular range, or a full digital information, such as an eight-bit code stored in a permanent memory part of the item. Upon recognition, the associated icon is displayed, either in a standard manner, or updated from some information retrieved from the variable memory part of the item. There may be feedback on the item, such as in the form of a LED or beep, even if the proximity condition is not fulfilled.

Next, the service field is opened. This field may pertain to a particular information-related area pertaining to the item, such as a video game in which the item figures as a character, an audio story that is read from the host memory and may imply choices to be made by a listener, a video diary that may be kept and updated by the user

5   person, and various others. Various different service fields may in alternation be produced by any host. The user may now interact immediately with the host, for changing content and/or visualisation of the service field. In block 68 the system detects whether user item or system would need an update. If yes, in block 78, the content of the variable memory of the item is updated. In block 70, it is detected whether the item is being removed or has been removed

10   from the proximity condition in question. If no, in block 80 a waiting interval may be implemented or not. If the item has been removed, in block 72 the service field is closed, the content of the permanent memory of the item is being frozen for later use, and the iconized display of the actual item is suppressed. In block 74, the system, and in particular the host, is stopped.

15   The information stored into the item to keep it abreast with the associated service field may be various. In a game of skills, the information may indicate the level of skill actually attained by the user person. In case of a toy, the user may decide to give the item a name, and the name is stored, so that the host may call by voice the item upon its presentation. This also applies if the service field would also run on another host. The

20   information may be a brief song, so that the host will sing this song when the item is again presented. Various other types of information might be relished by a user person.